

Körber Supply Chain

Master Class Series

Today's Class: Agility and resilience:
best practices for living with
disruptions



Speakers



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Professor

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Supply Chain Master Class:

Agility and resilience: best practices for living with disruptions

Benchmarking Master Classes On-Demand:

- Boost customer satisfaction - with your supply chain
- Optimizing brownfield facilities
- Tackling labor shortages with best practices
- Sustainability: how leaders create "greener" supply chains

Other Master Class Series Available On-Demand:

- *Autonomous mobile robots (AMR) for today's warehouses*
 - *Addressing Labor Challenges*
 - *Sustainability*
 - *Innovative Technologies*
- ... *And many more*

Housekeeping

All phone lines are muted

Recording of today's class and slides will be emailed to you in a couple of days

Questions:

- Ask questions during today's class in the GoToWebinar Questions window
- Questions will be addressed at the end of today's class or we will follow up with questions via email after class

Poll Results

Why Supply Chain Agility?

Vulnerabilities Pipeline_Costs
Extended Supply Chains

↑ Demands, ↓ Time

Turbulence Competition
New_Channels
Market_Advantage
Omnichannel
Markets

Vulnerabilities & Uncertainty

Market_Conditions
Time_Compression Capital_Conservation

What is Supply Chain Agility (SCA)?

Supply Chain Agility represents a company's ability to quickly adjust tactics and operations within its supply chain.

DIMENSIONS OF AGILITY

Dimension	Definition
Alertness	Ability to quickly detect changes, opportunities and threats
Accessibility	Ability to quickly access relevant data
Decisiveness	Ability to make decisions quickly
Swiftness	Ability to implement decisions quickly
Flexibility	Ability to modify the range of tactics and operations to the extent needed

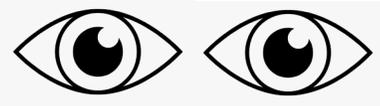
Source: Glior, Holcomb and Stank (2013)

Thinking & Acting Faster

Dimension	Definition	Type
Alertness	Ability to quickly detect changes, opportunities and threats	Cognitive Dimensions
Accessibility	Ability to quickly access relevant data	
Decisiveness	Ability to make decisions quickly	
Swiftness	Ability to implement decisions quickly	Physical Dimensions
Flexibility	Ability to modify the range of tactics and operations to the extent needed	



Advanced Techs that Can Help - Digitalization



SEEING	THINKING	ACTING
Illuminating product and process flows across the enterprise and throughout the supply chain	Making connections (obvious and not) faster than human logic	Employing non-human labor to assist or autonomously perform work processes
End-to-End Supply Chain Visibility	Artificial Intelligence & Machine Learning	Autonomous Operations
xMS, SaaS & Cloud-based systems	Descriptive Analytics	Collaborative Robots (“Cobots”)
RFID, Internet of Things, & 5G Connectivity	Predictive Analytics	Robotics as a Service (RaaS)
Supply Chain Event Management, Blockchain	Simulation & Digital Twins	3D Printing & Mass Customization

Is Agility the Right Answer to Disruptions?

Agility* = Resilience

*“Agility” means not getting boxed in; having options within a realm of possibilities



Analyzing Agility and Resilience

Tim Betz

SVP, Customer Engagement Körber Supply Chain Software

Researching and validating the trends

**Consumer
survey**

**Customer
interviews**

**Analyst
Interviews**

**Executive
Interviews**

**Market
Research**

**Media
Monitoring**

Key findings: Agility and Resilience

Maturity Level

Leader

40%

Advanced

42%

Developing

17%

Initiating

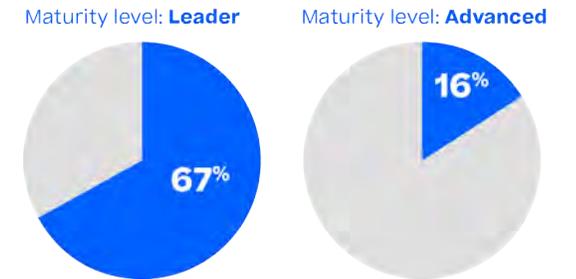
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Körber
Supply Chain
Perspectives
Agility and
Resilience

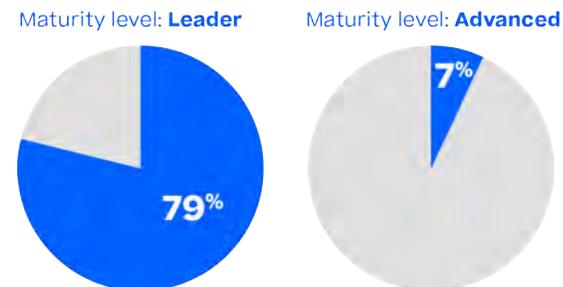
Do you feel prepared to handle unexpected demand fluctuations?



External supply chain partners would collaborate with us to help mitigate supply chain disruptions



Have sufficient end-to-end visibility into own supply chain network, to assess and mitigate disruptions



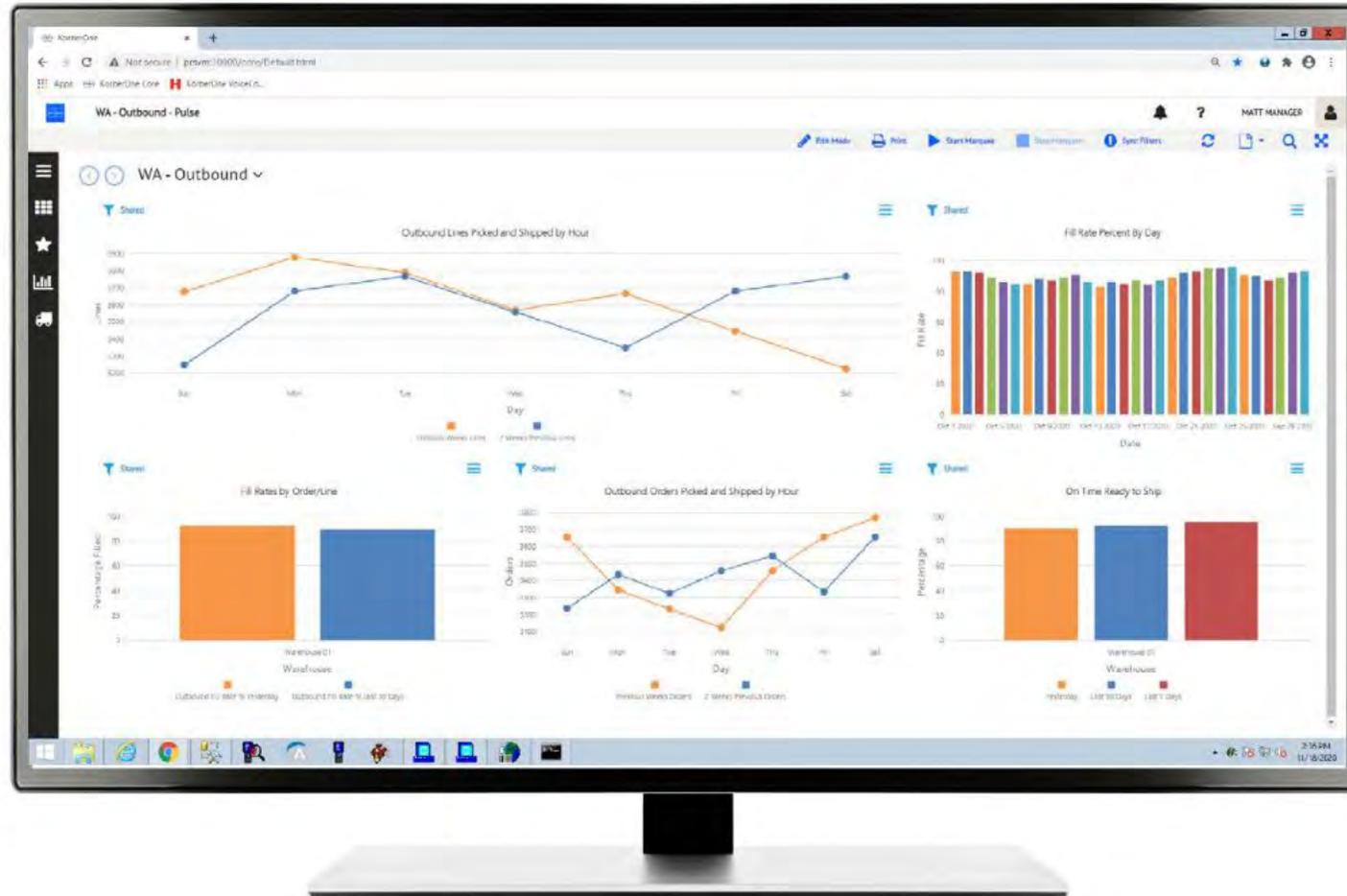
Source: Körber benchmarking survey

Visibility



Real-time visibility

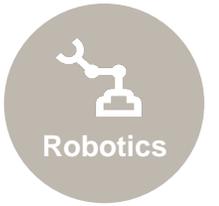
Get ahead of problems before they occur. Ensure the entire team, from executives to personnel on the floor, have the information they need to adjust to changes quickly.



Robotics



AMR Solutions



Recent Customer Example

	Before Robotics	After Robotics
Data for goods to person picking & sorting	24 operators	8 operators
Throughput	800 Order line / hr	2000 Order line / hr
Operator know-how	2 weeks training (at least)	1 day training
Accuracy	90 – 95%	99.8%+

Reduced
cycle order
time

Flexible
initial
investment

Fast
ROI

Marketing
impression



Voice



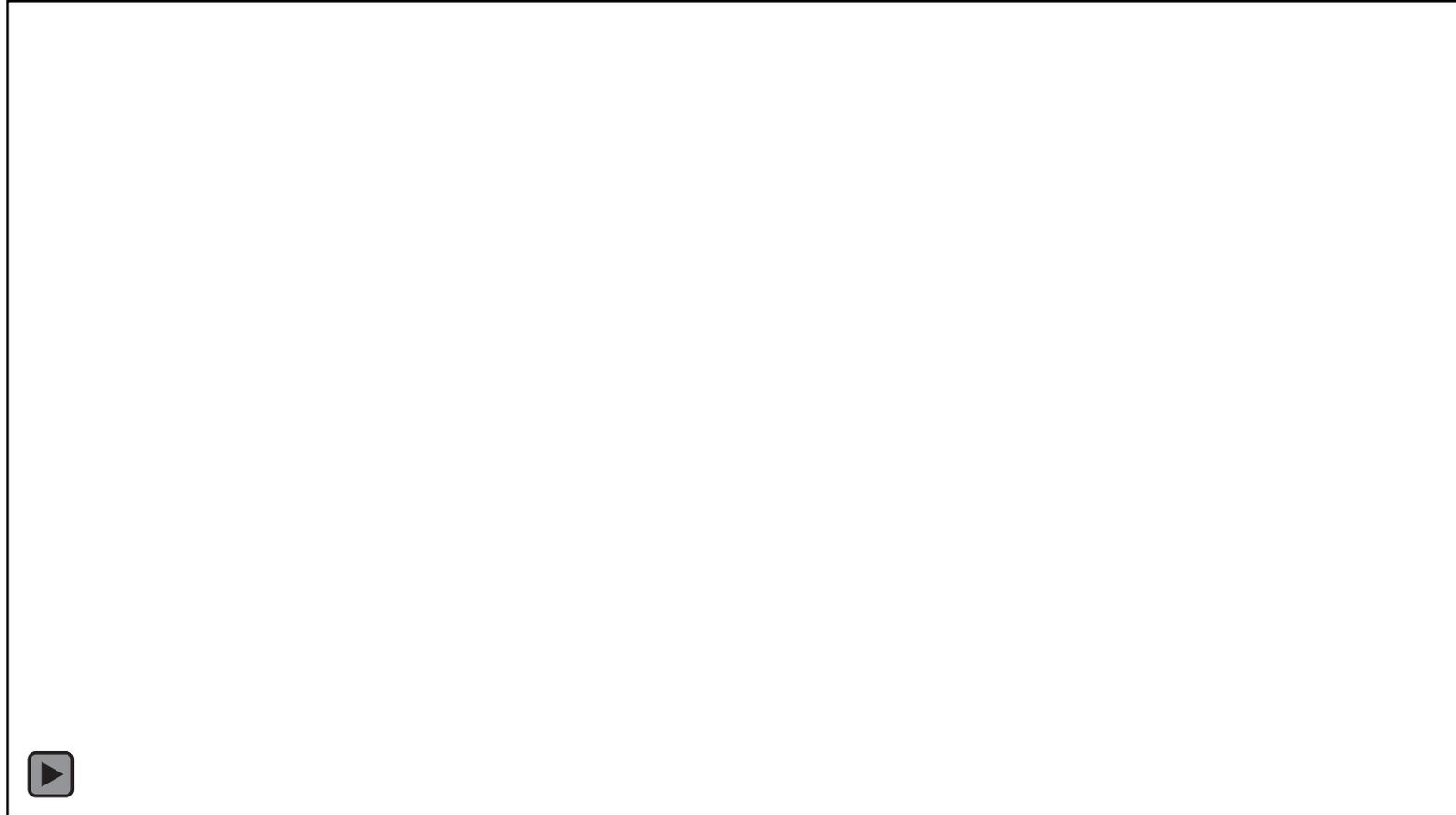
What is voice?

Voice is a system that enables workers to complete tasks with an interface that comes natural to them - a conversation.



How does it work?

- Workers will hear instructions through a headset and respond verbally to confirm the task has been completed and completed correctly.
- Voice allows workers to concentrate on the task at hand, while keeping their hands and eyes free at all times.
- This improves productivity, accuracy, safety, training time, and employee satisfaction.



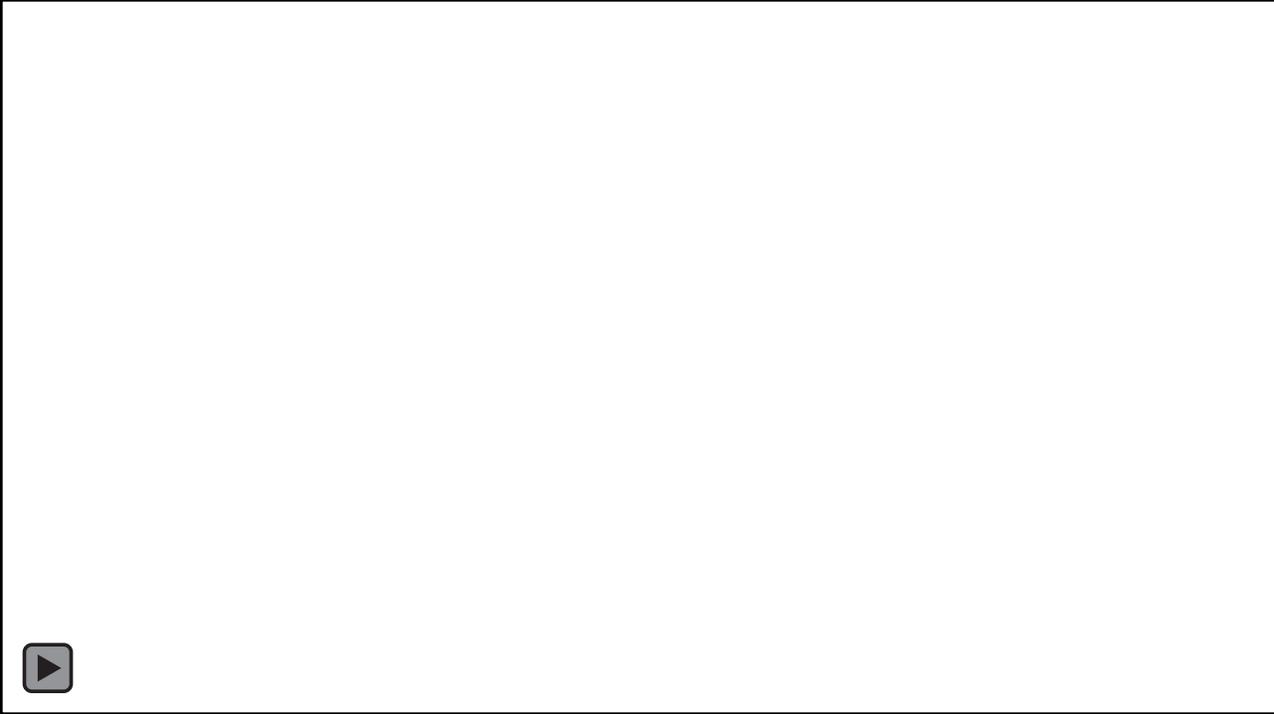
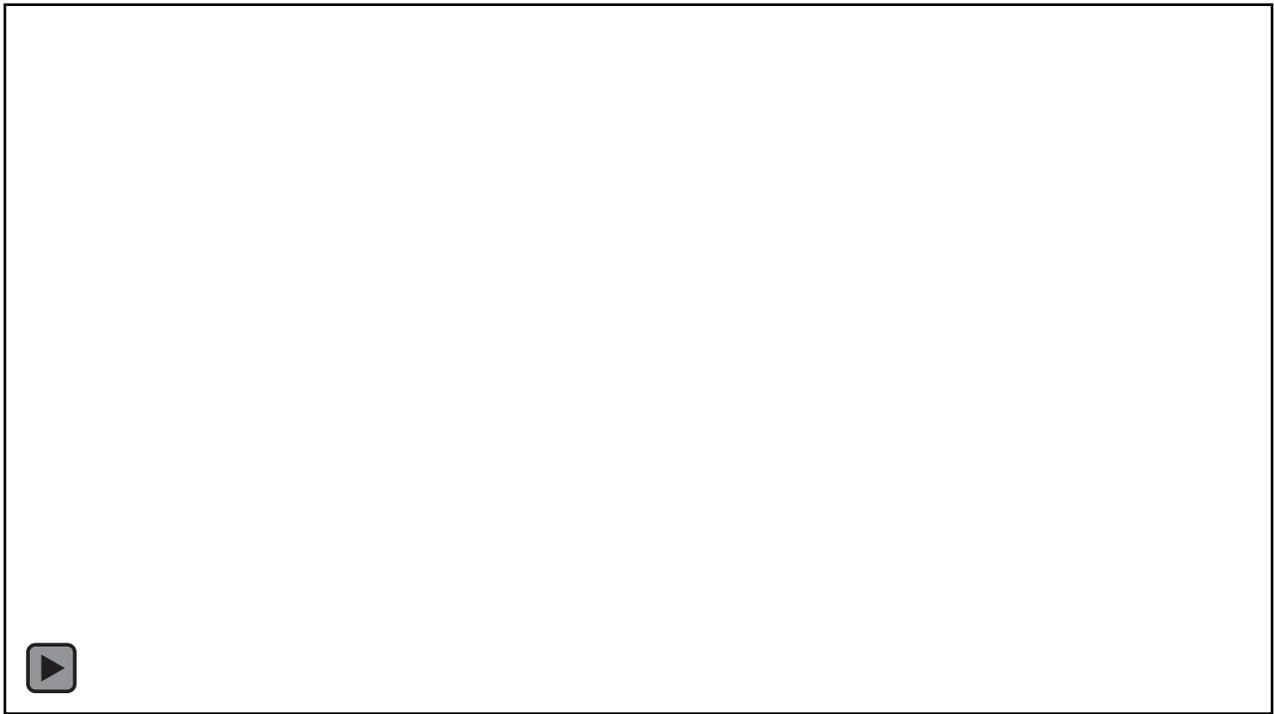
Warehouse Simulation



January
2022

Warehouse Simulation

Get answers to your modelling questions using real data and intelligent algorithms.



Simulation Answers Your Questions



Layout

Do I have sufficient storage?

Is there sufficient space to move freely around the warehouse?

Is there enough space to assemble outbound deliveries?

Can I accommodate enough pick stations?



Performance

Does my operation support my order volumes and service levels?

Are my vehicles leaving on time?

Can I process inbound deliveries and keep up with replenishments?

Can I complete all the daily tasks in time?



Labour

Do I have the right amount of workers to fulfill all the tasks?

Are there points of congestion that reduce efficiency?

What are my labor costs per shift?

Will the introduction of AMR reduce my headcount?



Equipment

Do I have the right type and quantity of equipment to fulfill all the tasks?

Is congestion occurring?

How much time is spent charging?

What is the optimum number of AMRs?



Fixed Automation

What percentage utilized is the ASRS?

Is the conveyor system limiting the automation performance?

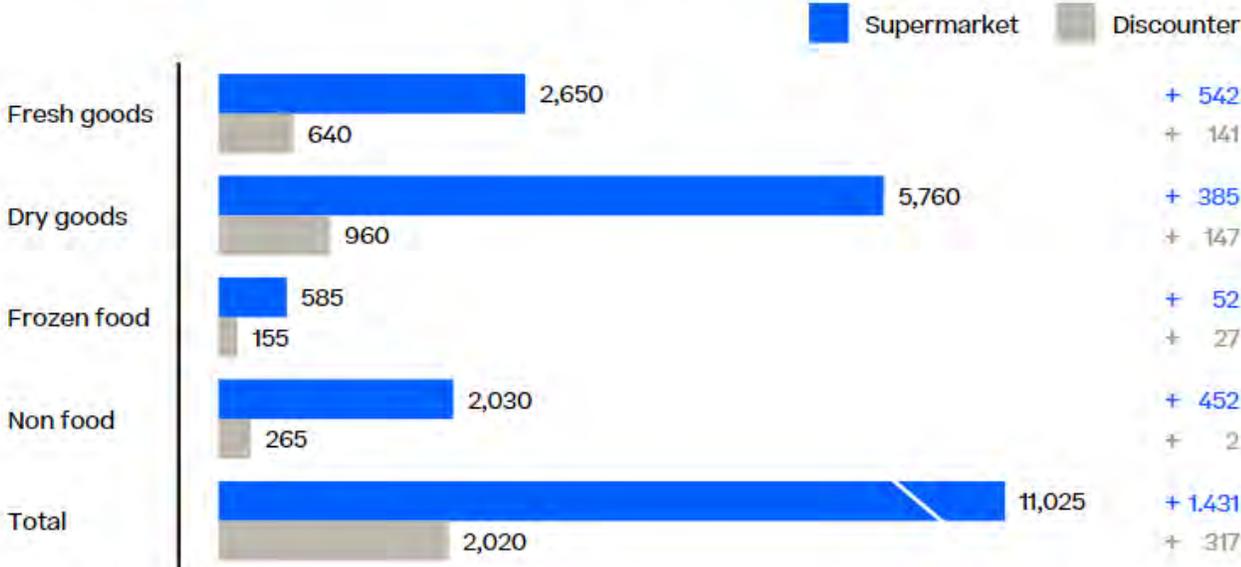
Will more induction points improve performance?

Supply Chain Agility & Resilience



Example: SKU explosion in food retailing

Number of new articles introduced in 2016 vs 2008 at supermarkets and discounters



What variety do customers want?



Q&A

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Browse through our extensive catalogue of Supply Chain Master Class Series!